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31 October 2010

Mr. Ken Landau, Assistant Executive Officer
Ms. Diana Messina, Supervising WRCE
Mr. Jim Marshall, Sr. WRCE
Regional Water Quality Control Board
Central Valley Region
11020 Sun Center Drive, Suite 200
Rancho Cordova, CA 95670-6144

VIA: Electronic Submission
Hardcopy if Requested

RE: Amending Waste Discharge Requirements Order No. R5-2008-0179 (NPDES No. CA0078590) for Town of Discovery Bay Community Services District, Discovery Bay Wastewater Treatment Plant, Contra Costa County

Dear Messrs. Landau, Marshall and Ms. Messina:

The California Sportfishing Protection Alliance (CSPA) has reviewed the proposed Amendment of Waste Discharge Requirements Order No. R5-2008-0179 (NPDES No. CA0078590) for Discovery Bay Wastewater Treatment Plant (Permit) and respectfully submits the following comments.

CSPA requests status as a designated party for this proceeding. CSPA is a 501(c)(3) public benefit conservation and research organization established in 1983 for the purpose of conserving, restoring, and enhancing the state's water quality and fishery resources and their aquatic ecosystems and associated riparian habitats. CSPA has actively promoted the protection of water quality and fisheries throughout California before state and federal agencies, the State Legislature and Congress and regularly participates in administrative and judicial proceedings on behalf of its members to protect, enhance, and restore California's degraded water quality and fisheries. CSPA members reside, boat, fish and recreate in and along waterways throughout the Central Valley, including Contra Costa County.

CSPA submitted a petition to the State Water Resources Control Board following the Regional Board's adoption of Order No. R5-2008-0179. The State Board has not acted on CSPA's petition. The following comments incorporate the petition previously filed regarding Order No. R5-2008-0179.

1. The proposed Permit fails to contain an adequate effluent limitation for electrical conductivity (EC) in violation of federal regulation 40 CFR 122.44.

The proposed Permit contains an Effluent Limitation for EC of 2,100 µmhos/cm as an annual average. The allowed discharge levels of EC exceeds the Drinking Water maximum contaminant levels (MCLs), water quality objectives incorporated into the Basin Plan Chemical Constituents by reference, the recommended level necessary to protect the irrigated agricultural beneficial use, the levels cited as necessary to protect the Industrial Process Supply beneficial use and the upper tolerance level for freshwater aquatic life thereby allowing degradation of the Aquatic life beneficial use. The application of the limitation for EC as an annual average will allow shorter-term peak concentrations substantially higher than 2,100 umhos/cm. The Regional Board has not assessed the impacts to a single beneficial use from their proposed limitation for EC.

The California Water Code (CWC), Section 13377 states in part that: "…the state board or the regional boards shall…issue waste discharge requirements… which apply and ensure compliance with …water quality control plans, or for the protection of beneficial uses…" Section 122.44(d) of 40 CFR requires that permits include water quality-based effluent limitations (WQBELs) to attain and maintain applicable numeric and narrative water quality criteria to protect the beneficial uses of the receiving water. The proposed Permit Effluent Limitation does not comply with CWC 13377 or 40 CFR 122.44 since the allowed discharge of EC clearly exceeds the levels necessary to protect the beneficial uses of the receiving stream.

Federal Regulations, 40 CFR 122.44 (d)(i), requires that; "Limitations must control all pollutants or pollutant parameters (either conventional, nonconventional, or toxic pollutants) which the Director determines are or may be discharged at a level which will cause, have the reasonable potential to cause, or contribute to an excursion above any State water quality standard, including State narrative criteria for water quality." The Water Quality Control Plan (Basin Plan) for the Central Valley Region, Water Quality Objectives, page III-3.00, contains a Chemical Constituents Objective that includes Title 22 Drinking Water Maximum Contaminant Levels (MCLs) by reference. The Title 22 MCLs for EC are 900 µmhos/cm (recommended level), 1,600 µmhos/cm (upper level) and 2,200 µmhos/cm (short term maximum).

The Basin Plan states, on Page III-3.00 Chemical Constituents, that "Waters shall not contain constituents in concentrations that adversely affect beneficial uses." The Basin Plan's "Policy for Application of Water Quality Objectives" provides that in implementing narrative water quality objectives, the Regional Board will consider numerical criteria and guidelines developed by other agencies and organizations. This application of the Basin Plan is consistent with Federal Regulations, 40CFR 122.44(d).

For EC, *Ayers R.S. and D.W. Westcott, Water Quality for Agriculture, Food and Agriculture Organization of the United Nations – Irrigation and Drainage Paper No. 29, Rev. 1, Rome (1985),* levels above 700 μmhos/cm will reduce crop yield for sensitive plants. The University of California, Davis Campus, Agricultural Extension Service, published a paper, dated 7 January 1974, stating that there will not be problems to crops associated with salt if the EC remains below 750 μmhos/cm.

The discharge of EC at 2,100 umhos/cm exceeds water quality objectives for each designated beneficial use:

MUN: The Drinking Water maximum contaminant levels (MCLs) are water quality objectives incorporated into the Basin Plan Chemical Constituents by reference. The MCL for EC is 900 mg/l as the recommended level, 1,600 mg/l as an upper level and 2,200 mg/l as a short term maximum.

AGR: The Basin Plan states, on Page III-3.00 Chemical Constituents, that "Waters shall not contain constituents in concentrations that adversely affect beneficial uses." The Basin Plan's "Policy for Application of Water Quality Objectives" provides that in implementing narrative water quality objectives, the Regional Board will consider numerical criteria and guidelines developed by other agencies and organizations. This application of the Basin Plan is consistent with Federal Regulations, 40CFR 122.44(d). For EC, *Ayers R.S. and D.W. Westcott, Water Quality for Agriculture, Food and Agriculture Organization of the United Nations – Irrigation and Drainage Paper No. 29, Rev. 1, Rome (1985),* levels above 700 μmhos/cm will reduce crop yield for sensitive plants. The State Water Resources Control Board's *Irrigation with Reclaimed Municipal Waste (July 1984)* and *McKee and Wolf* (1971 Water Quality Criteria), state that waters with TDS above 2,100 mg/l are unsuitable for any irrigation under most conditions.

IND: *McKee and Wolf* (1971 Water Quality Criteria) lists the limiting TDS concentrations for numerous industrial uses in mg/l; boiler feed water 50-3000, brewing 500-1000, canning 850, general food processing 850 and paper manufacturing 80-500.

COLD/MIGR/SPWN: In a *Biological Significance* document sent to the Regional Board regarding the Musco Olive facility, dated November 1st 2006, James M. Harrington, Staff Water Quality Biologist with the California Department of Fish and Game, citing McKee and Wolf (1971 Water Quality Criteria) wrote that:

> "Surveys of inland fresh waters indicates that good mixes of fish fauna are found where conductivity values range between 150 and 500 umhos/cm. Even in the most alkaline waters, the upper tolerance limit for aquatic life is approximately 2000 umhos/cm."

The beneficial uses of receiving streams may be degraded by salt concentrations in wastewater discharges and Federal Regulation, 40 CFR 122.4 (a), (d) and (g) require that no permit may be issued when the conditions of the permit do not provide for compliance with the applicable requirements of the CWA, or regulations promulgated under the CWA, when imposition of conditions cannot ensure compliance with applicable water quality requirements and for any discharge inconsistent with a plan or plan amendment approved under Section 208(b) of the CWA. California Water Code, section 13377, requires that: "Notwithstanding any other provision of this division, the state board and the regional boards shall, as required or authorized by the Federal Water Pollution Control Act, as amended, issue waste discharge and dredged or fill material permits which apply and ensure compliance with all applicable provisions of the act and acts amendatory thereof or supplementary, thereto, together with any more stringent effluent standards or limitations necessary to implement water quality control plans, or for the protection of beneficial uses, or to prevent nuisance." The Region 5 Permit does not protect the beneficial uses of the receiving stream and therefore does not comply with the requirements of Federal Regulations and the California Water Code.

The proposed Permit fails to establish an effluent limitation for EC that are protective of the beneficial uses of the receiving water.

> The proposed Permit, page F-25, states that: "*Due to the site-specific conditions of the discharge, the Central Valley Water Board has used best professional judgment in determining the appropriate method for conducting the RPA for these non-priority pollutant salinity constituents. For conducting the RPA, the USEPA recommends using a mass-balance approach to determine the expected critical downstream receiving water concentration using a steady-state approach. This downstream receiving water concentration is then compared to the applicable water quality objectives to determine if the discharge has reasonable potential to cause or contribute to an in-stream excursion. This approach allows assimilative capacity and dilution to be factored into the RPA.*"

The Regional Board's unique approach for determining reasonable potential can only be undertaken if a mixing zone is considered. The Regional Board acknowledges that mixing is allowed by stating that: "*This approach allows assimilative capacity and dilution to be factored into the RPA.*"

The Regional Board acknowledges on page F-24 that: "The 2006 update of the Bay Delta Plan clarified that the numeric objectives are not just applicable at the compliance monitoring locations, but "unless otherwise indicated, water quality objectives cited for a general area, such as for the southern Delta, are applicable for all locations in that general area and compliance locations will be used to determine compliance with the cited objectives."" Despite the fact that the Bay Delta Plan objectives for EC are applicable at the point of discharge, the Regional Board utilized mixing at a point downstream prior to conducting a reasonable potential analysis.

The Regional Board cites an EPA recommendation for a mass balanced approach in the reasonable potential analysis but cites no regulatory authority. This is critical since, as is discussed above, the discharge at 2,100 umhos/cm exceeds all the applicable water quality objectives and degrades beneficial uses contrary to CWC 13377 and 40 CFR 122.44.

The Regional Board has authority to consider assimilative capacity and dilution in mixing zones under the terms of 40 CFR 131.13; there is no other regulatory authority to do so. It is interesting that federal guidance would recommend an approach utilizing mixing when that authority has only been delegated to the states. California includes allowances for mixing zones in the SIP and in the individual Basin Plans. The Regional Board correctly cites that the SIP is not applicable to non-priority pollutants. The Basin Plan is applicable however. The Basin Plan for the Sacramento/San-Joaquin River Basin address mixing zones in the Implementation section by requiring that:

> "In conjunction with the issuance of NPDES and storm water permits, the Regional Water Board may designate mixing zones within which water quality objectives will not apply provided the discharger has demonstrated to the satisfaction of the Regional Water Board that the mixing zone will not adversely impact beneficial uses. If allowed, different mixing zones may be designated for different types of objectives, including, but not limited to, acute aquatic life objectives, chronic aquatic life objectives, human health objectives, and acute and chronic whole effluent toxicity objectives, depending in part on the averaging period over which the objectives apply. In determining the size of such mixing zones, the Regional Water Board will consider the applicable procedures and guidelines in EPA's Water Quality Standards Handbook and the Technical Support Document for Water Quality-based Toxics Control. Pursuant to EPA guidelines, mixing zones designated for acute aquatic life objectives will generally be limited to a small zone of initial dilution in the immediate vicinity of the discharge." (Emphasis added)

As discussed in more detail above the discharge at 2,100 umhos/cm exceeds all the applicable water quality objectives and degrades beneficial uses contrary to CWC 13377 and 40 CFR 122.44. The Regional Board has not considered the procedures in EPA's Water Quality Standards Handbook and the Technical Support Document for Water Quality-based Toxics Control in considering dilution for EC. The Regional Board has failed to comply with the Basin

Plan, the only regulatory authority addressing allowances for dilution, in allowing dilution and utilization of assimilative capacity. The Regional Board has no authority to ignore the requirements of the Basin Plan and cites no other authority for allowing the use of assimilative capacity and dilution. It is interesting that EPA would have included discussion of mixing allowances in a training course since EPA has no authority regarding mixing zones; such was delegated to the states under 40 CFR 131.13 and each state policy is different. The Regional Board's failure to provide a limitation of the beneficial uses of the receiving stream violates the requirements of CWC 13377 and 40 CFR 122.44.

2. The proposed Permit allows for segments of the receiving stream to exceed water quality objectives for temperature and turbidity contrary to the Basin Plan.

The proposed Permit, page 27, has been modified to include the following:

> D. Temperature Receiving Water Limitations. Compliance with the receiving surface water limitations for temperature required in section V.A.15.b shall be determined based on the difference in temperature measured at RSW-001 and RSW-002.
>
> E. Turbidity Receiving Water Limitations. Compliance with the receiving surface water limitations for turbidity required in section V.A.17 shall be determined based on the difference in turbidity measured at RSW-001 and RSW-002.

The proposed Permit, Monitoring and Reporting Program page E-2, identifies points RSW-001 and 002 as: 500 ft north of the point of discharge to Old River and 200 ft south of the point of discharge to Old River, respectively. The distance between the two points is 700 feet.

Receiving water monitoring points are located by the Discharger, typically based on convenience and access. There is no correlation to the receiving water monitoring locations and water quality.

The receiving water limitations in the proposed Permit are based on water quality objectives included in the Basin Plan. By allowing compliance strictly measured at the end points; allows exceedance of the water quality objectives between points RSW-001 and RSW-002.

With regard to temperature and turbidity the Basin Plan states in part that:

> The natural receiving water temperature of intrastate waters shall not be altered unless it can be demonstrated to the satisfaction of the Regional Water Board that such alteration in temperature does not adversely affect beneficial uses.

> And for Temperature objectives for COLD interstate waters, WARM interstate waters, and Enclosed Bays and Estuaries are as specified in the Water Quality Control Plan for Control of Temperature in the *Coastal and Interstate Waters and Enclosed Bays of California* including any revisions. There are also temperature objectives for the Delta in the State Water Board's May 1991 *Water Quality Control Plan for Salinity*.
>
> At no time or place shall the temperature of COLD or WARM intrastate waters be increased more than 5°F above natural receiving water temperature.
>
> Waters shall be free of changes in turbidity that cause nuisance or adversely affect beneficial uses.

The Basin Plan language does not include any allowance for exceedances near wastewater outfalls or writing off 700 feet of receiving stream. A mixing zone has not been discussed or address by the Regional Board in allowing exceedance of temperature and turbidity objectives near the wastewater outfall for this discharge. Federal Regulations, 40 CFR 122.44 (d)(i), requires that; "Limitations must control all pollutants or pollutant parameters (either conventional, nonconventional, or toxic pollutants) which the Director determines are or may be discharged at a level which will cause, have the reasonable potential to cause, or contribute to an excursion above any State water quality standard, including State narrative criteria for water quality." The Regional Board has not provided any legal citation, mixing zone analysis or technical justification that allows for a zone of compliance extending for 700 feet. In accordance with the Basin Plan Water Quality Objectives and 40 CFR 122.44 all surface waters must meet water quality objectives.

3. The proposed Permit contains an inadequate antidegradation analysis that does not comply with the requirements of Section 101(a) of the Clean Water Act, Federal Regulations 40 CFR § 131.12, the State Board's Antidegradation Policy (Resolution 68-16) and California Water Code (CWC) Sections 13146 and 13247.

CWC Sections 13146 and 13247 require that the Board in carrying out activities which affect water quality shall comply with state policy for water quality control unless otherwise directed by statute, in which case they shall indicate to the State Board in writing their authority for not complying with such policy. The State Board has adopted the Antidegradation Policy (Resolution 68-16), which the Regional Board has incorporated into its Basin Plan. The Regional Board is required by the CWC to comply with the Antidegradation Policy.

Section 101(a) of the Clean Water Act (CWA), the basis for the antidegradation policy, states that the objective of the Act is to "restore and maintain the chemical, biological and physical integrity of the nation's waters." Section 303(d)(4) of the CWA carries this further, referring explicitly to the need for states to satisfy the antidegradation regulations at 40 CFR § 131.12

before taking action to lower water quality. These regulations (40 CFR § 131.12(a)) describe the federal antidegradation policy and dictate that states must adopt both a policy at least as stringent as the federal policy as well as implementing procedures.

California's antidegradation policy is composed of both the federal antidegradation policy and the State Board's Resolution 68-16 (State Water Resources Control Board, Water Quality Order 86-17, p. 20 (1986) ("Order 86-17); Memorandum from Chief Counsel William Attwater, SWRCB to Regional Board Executive Officers, "federal Antidegradation Policy," pp. 2, 18 (Oct. 7, 1987) ("State Antidegradation Guidance")). As a state policy, with inclusion in the Water Quality Control Plan (Basin Plan), the antidegradation policy is binding on all of the Regional Boards (Water Quality Order 86-17, pp. 17-18).

Implementation of the state's antidegradation policy is guided by the State Antidegradation Guidance, SWRCB Administrative Procedures Update 90-004, 2 July 1990 ("APU 90-004") and USEPA Region IX, "Guidance on Implementing the Antidegradation Provisions of 40 CFR 131.12" (3 June 1987) (" Region IX Guidance"), as well as Water Quality Order 86-17.

The Regional Board must apply the antidegradation policy whenever it takes an action that will lower water quality (State Antidegradation Guidance, pp. 3, 5, 18, and Region IX Guidance, p. 1). Application of the policy does not depend on whether the action will actually impair beneficial uses (State Antidegradation Guidance, p. 6). Actions that trigger use of the antidegradation policy include issuance, re-issuance, and modification of NPDES and Section 404 permits and waste discharge requirements, waiver of waste discharge requirements, issuance of variances, relocation of discharges, issuance of cleanup and abatement orders, increases in discharges due to industrial production and/or municipal growth and/other sources, exceptions from otherwise applicable water quality objectives, etc. (State Antidegradation Guidance, pp. 7-10, Region IX Guidance, pp. 2-3). Both the state and federal policies apply to point and nonpoint source pollution (State Antidegradation Guidance p. 6, Region IX Guidance, p. 4).

The proposed Permit allows for an EC limitation that exceeds water quality standards and objectives and allows for degraded beneficial uses. The compliance determinations for temperature and turbidity receiving Water Limitations has been altered to allow a 770-foot reach of the receiving stream where the water quality objectives will not be applied. These conditions allow for degraded water quality and do not provide for protection of the applicable beneficial uses of the receiving stream. There has been no antidegradation analysis undertaken to determine if best practicable treatment and control of the discharge has been provided. There is no assessment showing that degradation of water quality is in the best interest of the people of California. The discharge exceeds water quality objectives, which is contrary to the Antidegradation Policy, Resolution 68-16.

Thank you for considering these comments. If you have questions or require clarification, please don't hesitate to contact us.

Sincerely,

Bill Jennings, Executive Director
California Sportfishing Protection Alliance